

WHAT IS CLAIMED IS:

1 1. An isolated nucleic acid molecule comprising an *OsEMF1*
2 polynucleotide sequence, which polynucleotide sequence specifically hybridizes to SEQ
3 ID NO:1 under stringent conditions.

1 2. The isolated nucleic acid molecule of claim 1, wherein the
2 *OsEMF1* polynucleotide is at least about 100 nucleotides in length.

1 3. The isolated nucleic acid molecule of claim 1, wherein the
2 *OsEMF1* polynucleotide is SEQ ID NO:1.

1 4. The isolated nucleic acid molecule of claim 1, further comprising a
2 plant promoter operably linked to the *OsEMF1* polynucleotide.

1 5. The isolated nucleic acid molecule of claim 4, wherein the plant
2 promoter is from a *OsEMF1* gene.

1 6. The isolated nucleic acid of claim 5, wherein the *OsEMF1*
2 polynucleotide is linked to the promoter in an antisense orientation.

1 7. An isolated nucleic acid molecule comprising an *OsEMF1*
2 polynucleotide sequence, which polynucleotide sequence encodes an OsEMF1
3 polypeptide as shown in SEQ ID NO:2.

1 8. A transgenic plant comprising an expression cassette containing a
2 plant promoter operably linked to a heterologous *OsEMF1* polynucleotide of claim 1.

1 9. The transgenic plant of claim 8, wherein the heterologous *OsEMF1*
2 polynucleotide encodes a OsEMF1 polypeptide.

1 10. The transgenic plant of claim 9, wherein the OsEMF1 polypeptide
2 is as shown in SEQ ID NO:2.

1 11. The transgenic plant of claim 8, wherein the heterologous *OsEMF1*
2 polynucleotide is linked to the promoter in an antisense orientation.

1 12. The transgenic plant of claim 8, wherein the plant promoter is from
2 an *OsEMF1* gene.

1 13. The transgenic plant of claim 12, wherein the *OsEMF1* gene is as
2 shown in SEQ ID NO:1.

1 14. A method of modulating reproductive development in a plant, the
2 method comprising introducing into the plant an expression cassette containing a plant
3 promoter operably linked to a heterologous *OsEMF1* polynucleotide.

1 15. The method of claim 14, wherein the heterologous *OsEMF1*
2 polynucleotide encodes an OsEMF1 polypeptide.

1 16. The method of claim 15, wherein the OsEMF1 polypeptide has an
2 amino acid sequence as shown in SEQ ID NO:2.

1 17. The method of claim 14, wherein the heterologous *OsEMF1*
2 polynucleotide is linked to the promoter in an antisense orientation.

1 18. The method of claim 14, wherein the heterologous *OsEMF1*
2 polynucleotide is SEQ ID NO:1.

1 19. The method of claim 14, wherein the plant promoter is from a
2 *OsEMF1* gene.

1 20. The method of claim 14, wherein the expression cassette is
2 introduced into the plant through a sexual cross.